

NON-STALLING CIRCULAR COUNTERFLOW PIPELINE PROCESSOR WITH REORDER BUFFER

Abstract of the Disclosure

5 A system and method of executing instructions within a counterflow pipeline
processor. The counterflow pipeline processor includes an instruction pipeline, a
data pipeline, a reorder buffer and a plurality of execution units. An instruction and
one or more operands issue into the instruction pipeline and a determination is made
at one of the execution units whether the instruction is ready for execution. If so,
10 the operands are loaded into the execution unit and the instruction executes. The
execution unit is monitored for a result and, when the result arrives, it is stored into
the result pipeline. If the instruction reaches the end of the pipeline without
executing it wraps around and is sent down the instruction pipeline again.

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